

Claims

1. A label for in-mold forming, which is a non-stretched multi-layer film comprising at least two layers of a surface layer and a heat-sealing resin layer, wherein the surface layer is made of a thermoplastic resin composition containing at least one of an inorganic fine powder and an organic filler, and a center line average roughness of the surface layer is from 0.2 to 3 μm .

2. The label as described in claim 1, wherein an ink adhesion strength of the surface layer is 1 kg/cm or more.

3. The label as described in claims 1 or 2, wherein an opacity of the multi-layer film is from 5 to 30 percent.

4. The label as described in any of claims 1 to 3, wherein the surface layer is made of a resin composition comprising:

Component A: Polyolefinic resin

40-94 weight percent

Component B: Permanent antistatic agent

5-40 weight percent

Component C: At least one of an inorganic fine powder and an organic filler

1-20 weight percent

5. The label as described in any of claims 1 to 4, wherein the heat-sealing resin layer is made of a resin composition comprising:

Component a: Ethylene resin

60-95 weight percent

Component b: Permanent antistatic agent

5-40 weight percent

6. The label as described in any of claims 1 to 5, wherein the permanent antistatic agent contains a polyether ester amide as a main component.

7. The label as described in any of claims 1 to 6, wherein the surface layer is pressed against a textured roll to roughen the surface.

8. The label as described in any of claims 1 to 7, wherein the surface layer is pressed against a textured roll having a center line average roughness of from 0.5 to 5 μm to roughen the surface.

9. The label as described in any of claims 1 to 8, wherein the heat-sealing resin layer undergoes emboss processing on the surface.

10. The label as described in any of claims 1 to 9, wherein the multi-layer film has moduli of tension of from 8000 to 40,000 kgf/cm² in both lengthwise and crosswise.

11. The label as described in any of claims 1 to 10, wherein the multi-layer film is made of three layers and the central layer contains at least one of a propylene resin and an ethylene resin.

12. The label as described in any of claims 5 to 11, wherein the ethylene resin of the Component a has a crystallinity of from 10 to 60 percent, a number average molecular weight of from 10,000 to 40,000, and a melting point of from 50 to 130°C.